



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,764	12/02/2003	Noel Dequina	50187 (SE1936IP)	3276

7590 12/02/2004
CHARLES E. WANDS, ESQ.
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST, P.A.
255 SOUTH ORANGE AVENUE, SUITE 1401
P.O. BOX 3791
ORLANDO, FL 32802-3791

EXAMINER

LAXTON, GARY L

ART UNIT	PAPER NUMBER
----------	--------------

2838

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/725,764	Applicant(s) DEQUINA ET AL.	
	Examiner Gary L. Laxton	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 12-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/14/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Inventorship

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Specification

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 12-19 are objected to because of the following informalities:

Claim 12 recites the limitation "the phase node voltage" in line 16. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "the type of switching FET" in line 14. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites "the phase node voltage to go high" in line 16. This limitation is somewhat vague and indefinite. Does it mean that the node voltage increases? What is the starting point from where the node goes high? Was it low to begin with? What does "high" mean?

Claim 12 recites the limitation "the voltage at said phase node" in line 18. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites the limitation "the phase node" in line 18. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the absence" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites "the LGATE voltage going low" in line 3. This limitation is somewhat vague and indefinite. Does it mean the voltage decreases? What is the starting point from where the voltage goes low? Was it high to begin with? What does "low" mean?

Claim 13 recites "the phase node voltage to go high" in line 7. This limitation is somewhat vague and indefinite. Does it mean that the node voltage increases? What is the starting point from where the node goes high? Was it low to begin with? What does "high" mean?

Claim 13 recites the limitation "the elapse of a prescribed time out without either of prescribed positive or negative polarity thresholds" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "prescribed positive" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claims 14 and 15 inherit the deficiencies from claims 12 and 13.

Claim 17 recites "the phase node voltage to go high" in line 12. This limitation is somewhat vague and indefinite. Does it mean that the node voltage increases? What is the starting point from where the node goes high? Was it low to begin with? What does "high" mean?

Claim 18 recites the limitation "the absence" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites "the LGATE voltage going low" in line 4. This limitation is somewhat vague and indefinite. Does it mean the voltage decreases? What is the starting point from where the voltage goes low? Was it high to begin with? What does "low" mean?

Claim 18 recites "the phase node voltage to go high" in line 7. This limitation is somewhat vague and indefinite. Does it mean that the node voltage increases? What is the starting point from where the node goes high? Was it low to begin with? What does "high" mean?

Claim 19 recites the limitation "the elapse of a prescribed time out without either of prescribed positive or negative polarity thresholds" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 19 recites "said phase node voltage goes high" in line 6. This limitation is somewhat vague and indefinite. Does it mean that the node voltage increases? What is the

Art Unit: 2838

starting point from where the node goes high? Was it low to begin with? What does “high” mean?

Please find and correct any or all remaining errors that may exist.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites “the phase node voltage to go high” in line 16. Then line 18 recites the voltage at the phase node reaches a negative polarity. If the node just went high how can it be negative? These limitations appear to contradict one another. Claims 13-16 inherit the same from claim 12.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2838

7. Claims 12-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Berg et al (US 6,107,844).

Due the extensive errors regarding the claim limitations supra, the examiner considers Berg et al to anticipate the claims.

Berg et al disclose a method and apparatus for operating first and second switches arranged in a half-bridge configuration. First and second gate voltages on the first and second gates of the first and second switches are controlled such that the first switch is on and the second switch is off. After one of the first and second switches has been operating as a constant current source, the second gate voltage is controlled such that the second switch is on and the first gate voltage is controlled such that the first switch is off. Figures 2 and 6 show blanking delays and negative polarity for the phase node or the output for switching the FETs on and off.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,734,656 Miller et al disclose a buck regulator.

US 6,674,268 Rutter et al disclose a switching regulator.

US 6,459,325 Hall et al disclose an output buffer and pre-driver controller.

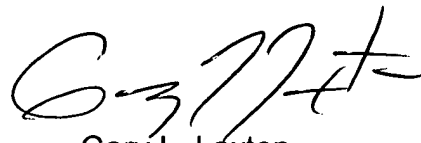
US 6,377,032 Andruzzi et al disclose a switched mode power supply.

US 6,307,409 Wrathall discloses a gate driver circuit with shoot through protection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 11/29/04
Gary L. Laxton
Patent Examiner
Art Unit 2838